

AMENDMENTS TO THE CLAIMS:

The following is a complete listing of the claims.

Claims 1-31 (Cancelled).

Claim 32 (Presently Amended): A method of detecting the presence of an analyte in a sample, the method comprising:

contacting said sample with a pore assembly comprising one or more pore-subunit polypeptides sufficient to form a pore, wherein the pore comprising comprises at least a first channel, and at least one of said pore-subunit polypeptides is a modified pore-subunit polypeptide comprising a pore-subunit polypeptide covalently linked to an exogenous sensing moiety capable of preferentially binding with a specific analyte; and

detecting an electrical current through at least a first channel, wherein a modulation in current compared to a current measurement in a control sample lacking said analyte indicates the presence of said analyte in said sample.

Claim 33 (Original): The method of claim 32, wherein said electrical current is detected through a single channel.

Claim 34 (Original): The method of claim 32, wherein said electrical current is detected through at least two channels.

Claim 35 (Original): The method of claim 32, wherein said analyte is known.

Claim 36 (Original): The method of claim 32, wherein said analyte is unknown.

Claim 37 (Original): The method of claim 32, wherein said analyte is an oligonucleotide.

Claim 38 (Original): The method of claim 32, wherein the amount of said analyte in said sample is quantitated.

Claims 39-43 (Cancelled)

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Claim 44 (Previously presented) The method of claim 32, wherein the exogenous sensing moiety is a polymer.

Claim 45 (Previously presented) The method of claim 32, wherein the exogenous sensing moiety is an oligonucleotide or a polynucleotide.

Claim 46 (Previously presented) The method of claim 32, wherein the exogenous sensing moiety is a single stranded DNA molecule.

Claim 47 (Previously presented) The method of claim 32, wherein the modified pore-subunit polypeptide is a pore-subunit polypeptide covalently linked to an oligonucleotide.

Claim 48 (Previously presented) The method of claim 47 wherein the modified pore-subunit polypeptide is a staphylococcal alpha hemolysin pore-subunit polypeptide covalently linked to an oligonucleotide.

Claim 49 (Previously presented) The method of claim 32, wherein the exogenous sensing moiety is an oligonucleotide and wherein the analyte comprises a polynucleic acid comprising a base sequence that is complementary to the exogenous sensing moiety.

Claim 50 (Currently Amended): A method of detecting the presence of an analyte in a sample, wherein the analyte comprises a polynucleic acid comprising a specific base sequence, the method comprising:

contacting said sample with a pore assembly comprising one or more pore-subunit polypeptides sufficient to form a pore, wherein the pore comprising comprises at least a first channel, and at least one of said pore-subunit polypeptides is a modified pore-subunit polypeptide comprising a pore-subunit polypeptide covalently linked to an exogenous sensing moiety that is an oligonucleotide, wherein the oligonucleotide comprises a base sequence that is complementary to said specific base sequence of said analyte; and

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detecting an electrical current through at least a first channel, wherein a modulation in current compared to a current measurement in a control sample lacking said analyte indicates the presence of said analyte in said sample.

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